

Serial No. 10/644,036

Docket No. P-0576

Amdt. dated March 5, 2007

Reply to Office Action of October 6, 2006

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. Canceled.
2. (Currently Amended) A plating method for a printed circuit board comprising:  
~~a first step of~~ providing a substrate having a plurality of connection pads and circuit patterns connected to the connection pads;  
~~a second step of~~ using some of the circuit patterns provided in the substrate as a power connection portion and connecting the power connection portion to an external power source;  
~~a third step of~~ covering a surface of the substrate excepting the connection pads with a plating resistance resist to shield it;  
~~a fourth step of~~ supplying power to the connection pads through the power connection portion and forming a gold-plated layer on the connecting pads; and  
~~a fifth step of~~ disconnecting the power connection portion from the external power source, wherein the using some of the circuit patterns provided in the substrate as a

power connection portion and connecting the power connection portion to the external power source further comprises:~~second step comprises,~~

coating a photoresist at the surface of the substrate,

removing a portion of the photoresist to expose the connection pad and

exposing some of the circuit patterns to form a power connection portion, and

coating a conductive layer on the surface of the substrate for connecting between the power connection portion and the external power source.

3. (Previously Presented) The method of claim 2, wherein the power connection portion is formed by removing a photoresist from a portion of the circuit pattern, and receives power by being connected to the conductive layer.

4. (Previously Presented) The method of claim 2, wherein the conductive layer is formed through an electroless plating method.

5. (Previously Presented) The method of claim 2, wherein the conductive layer has a thickness of 0.3~0.7  $\mu\text{m}$ .

6. (Previously Presented) The method of claim 2, wherein the conductive layer is formed to have a desired thickness by additionally performing an electrolytic plating method on the formed conductive layer.

7. (Currently Amended) The method of claim 2, ~~wherein, in the third step, wherein~~ the plating resistance resist is coated on the surface of the substrate formed with the conductive layer.

8. (Currently Amended) The method of claim 2, wherein the disconnecting the power connection portion from the external power source ~~fifth step~~ comprises:  
removing the ~~electrolyte~~-conductive layer and the plating resistance resist; and  
coating a photoresist on the surface of the ~~electrolyte~~-conductive layer and the plating resistance resist-removed substrate to cover the power connection portion.

9. (Currently Amended) A plating method for a printed circuit board comprising:  
~~a first step of~~ providing a substrate having a plurality of bonding pads and ball pads at both sides thereof and a circuit pattern to which the bonding pads and the ball pads are connected;

~~a second step of~~ using some of the circuit patterns provided at the surface of the substrate as first and second power connection portions and connecting the first power connection portion to an external power source;

~~a third step of~~ covering the surface of the substrate with the ball pad formed thereon with a plating resistance resist to shield it;

~~a fourth step of~~ supplying power to the bonding pad through the first power connection portion for forming a gold-plated layer on the bonding pad;

~~a fifth step of~~ removing the connection from the external power source to the first power connection portion;

~~a sixth step of~~ connecting the second power connection portion to the external power source and coating a plating resistance resist at the surface of the substrate with the bonding pad formed thereon to shield it;

~~a seventh step of~~ supplying power to the ball pad through the second power connection portion for forming a gold-plated layer on the ball pad; and

~~an eighth step of~~ removing the connection from the external power source to the second power connection portion.

10. (Currently Amended) The method of claim 9, wherein the using some of the circuit patterns provided at the surface of the substrate as first and second power connection

portions and connecting the first power connection portion to the external power source second  
~~step~~ comprises:

coating a photoresist on both surfaces of the substrate;

removing a portion of the photoresist to expose the bonding pad and the ball pad  
and exposing some of the circuit patterns to form each of the first and second connection  
portion; and

coating a conductive layer on the surface of the substrate where the ball pad is  
formed in order to connect the first power connection portion to the external power source.

11. (Previously Presented) The method of claim 10, wherein the first and second  
power connection portion is formed by removing a photoresist from a portion of the circuit  
pattern, and receives power by being connected to the conductive layer.

12. (Previously Presented) The method of claim 10, wherein the conductive layer is  
formed through an electroless plating method.

13. (Currently Amended) The method of claim 10, wherein the conductive layer has a  
thickness of approximately 0.3~0.7  $\mu\text{m}$ .

14. (Previously Presented) The method of claim 10, wherein the conductive layer is formed to have a desired thickness by additionally performing an electrolytic plating method on the formed conductive layer.

15. (Currently Amended) The method of claim 10, ~~wherein, in the third step, wherein~~ the plating resistance resist is coated on the surface of the substrate with the conductive layer formed thereon.

16. (Currently Amended) The method of claim 10, wherein the removing the connection from the external power source to the first power connection portion ~~fifth step~~ comprises :

removing the conductive layer and the plating resistance resist; and

coating a photoresist at the surface of the conductive layer and the plating resistance resists-removed substrate to cover and insulate the power connection portion in the substrate.

17. (Currently Amended) The method of claim 9, wherein the connecting the second power connection portion to the external power source and coating the plating resistance resist

at the surface of the substrate with the bonding pad formed thereon to shield it ~~sixth step~~  
comprises:

forming a conductive layer at the surface of the substrate where the bonding pad  
is formed to electrically connect it to the second power connection portion; and  
coating a plating resistance resist on a surface of the conductive layer.

18. (Currently Amended) The method of claim 10, wherein the removing the  
connection from the external power source to the second power connection portion ~~eighth step~~  
comprises:

removing the plating resistance resist and the conductive layer; and  
covering the second power connection portion with a photoresist to make the  
second power connection to be insulated in the substrate.

19. (Currently Amended) A plating method for a printed circuit board comprising:  
~~a first step of~~ providing a substrate having a plurality of connection pads and  
circuit patterns connected to the connection pads;  
~~a second step of~~ using some of the circuit patterns provided in the substrate as a  
power connection portion and connecting the power connection portion to an external power  
source;

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~~a third step of~~ covering a surface of the substrate excepting the connection pads with a plating resistance resist to shield it;

~~a fourth step of~~ supplying power to the connection pads through the power connection portion and forming a gold-plated layer on the connecting pads; and

~~a fifth step of~~ disconnecting the power connection portion from the external power source, wherein the ~~fifth step~~ disconnecting further comprises: ~~comprises;~~

removing the plating resistance resist, and

coating a photoresist on the surface of the plating resistance resist-removed substrate to cover and insulate the power connection portion in the substrate.